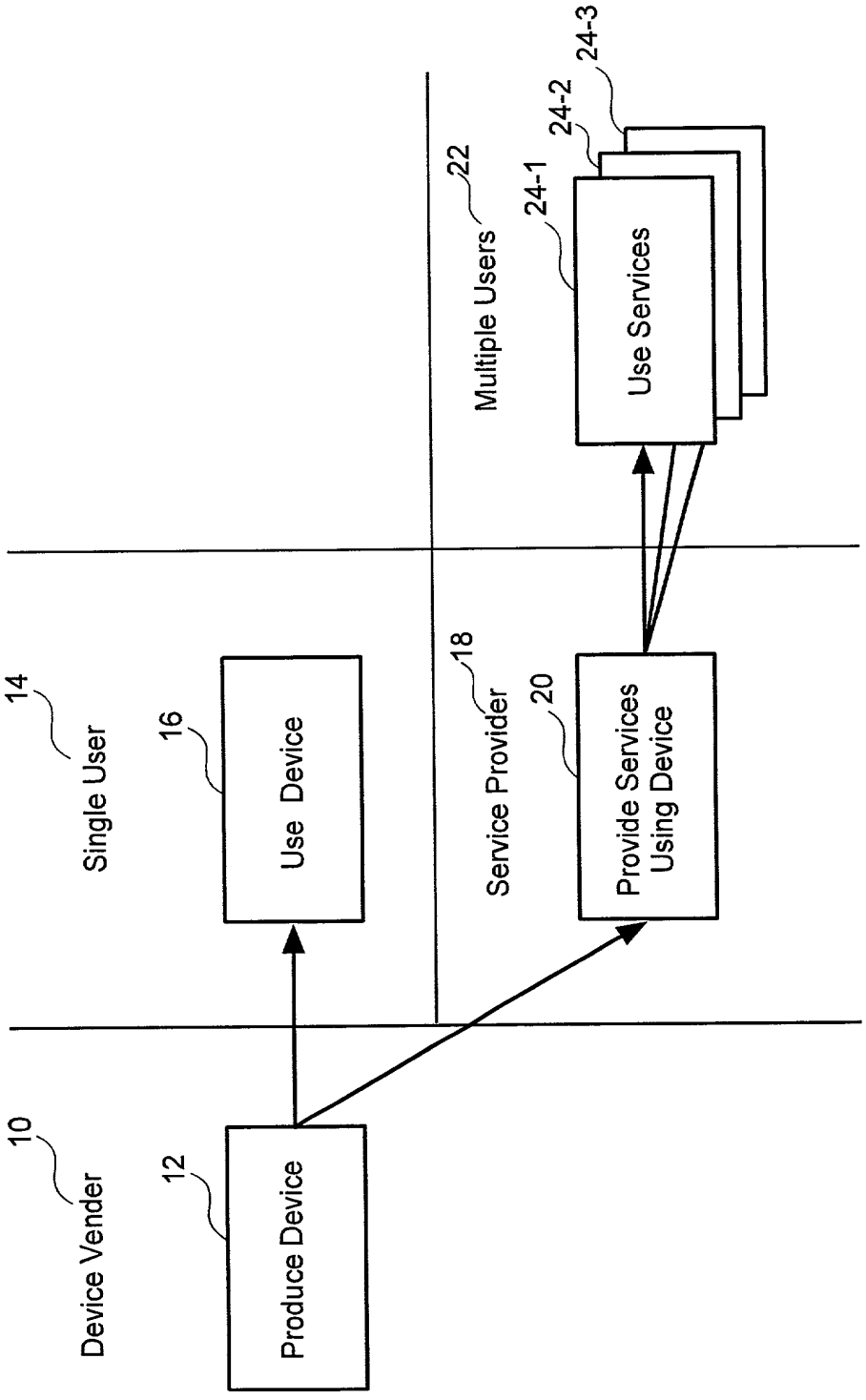
FIG.1


10
Device Vender
12
Produce Device
14
Single User
16
Use Device
18
Service Provider
20
Provide Services Using Device
22
Multiple Users
24-1
24-2
24-3
Use Services

EXPRESS MAIL NO. EV339956705US

FIG.2

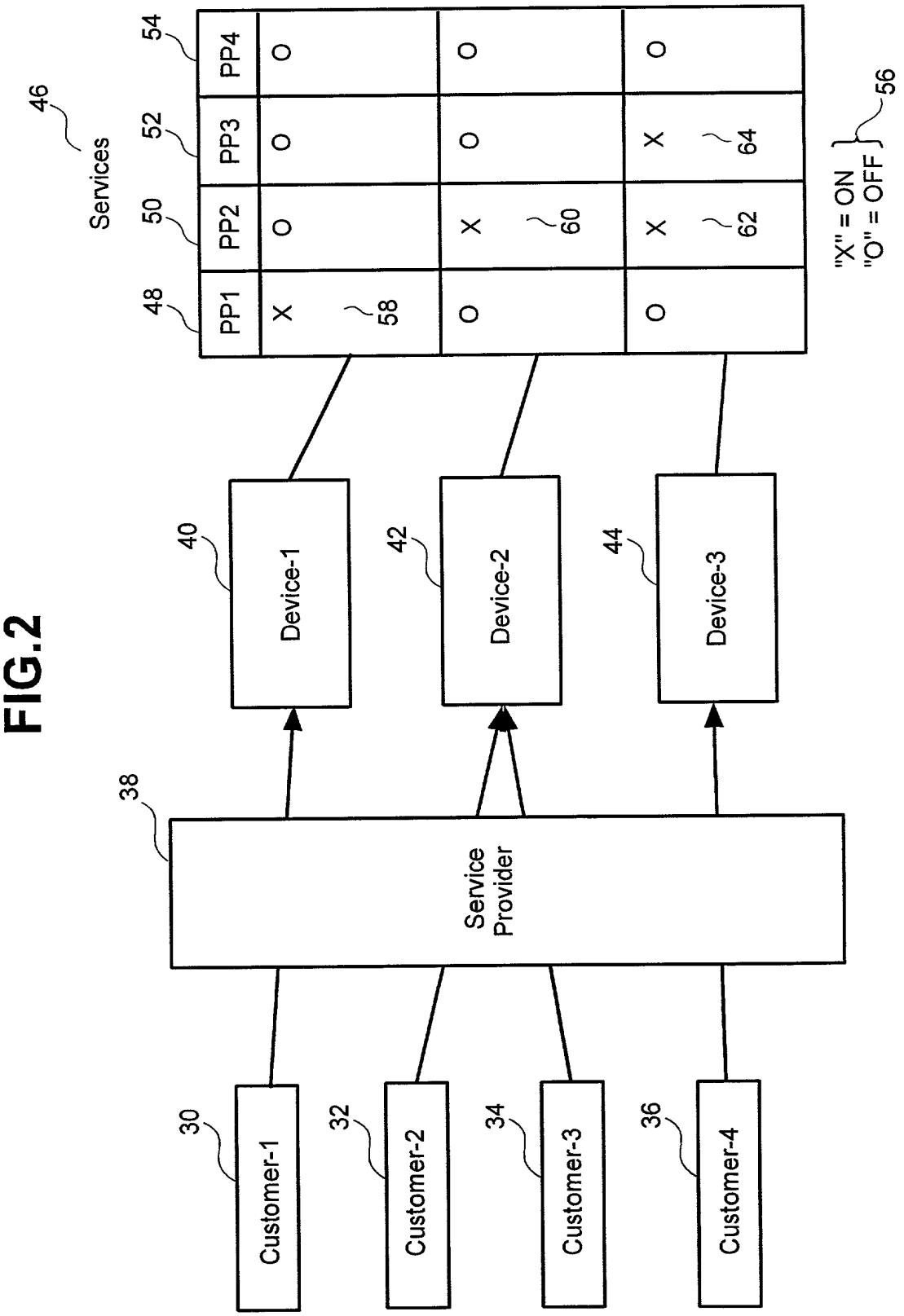


FIG.3

SERVICE PROVIDER SYSTEM ARCHITECTURE

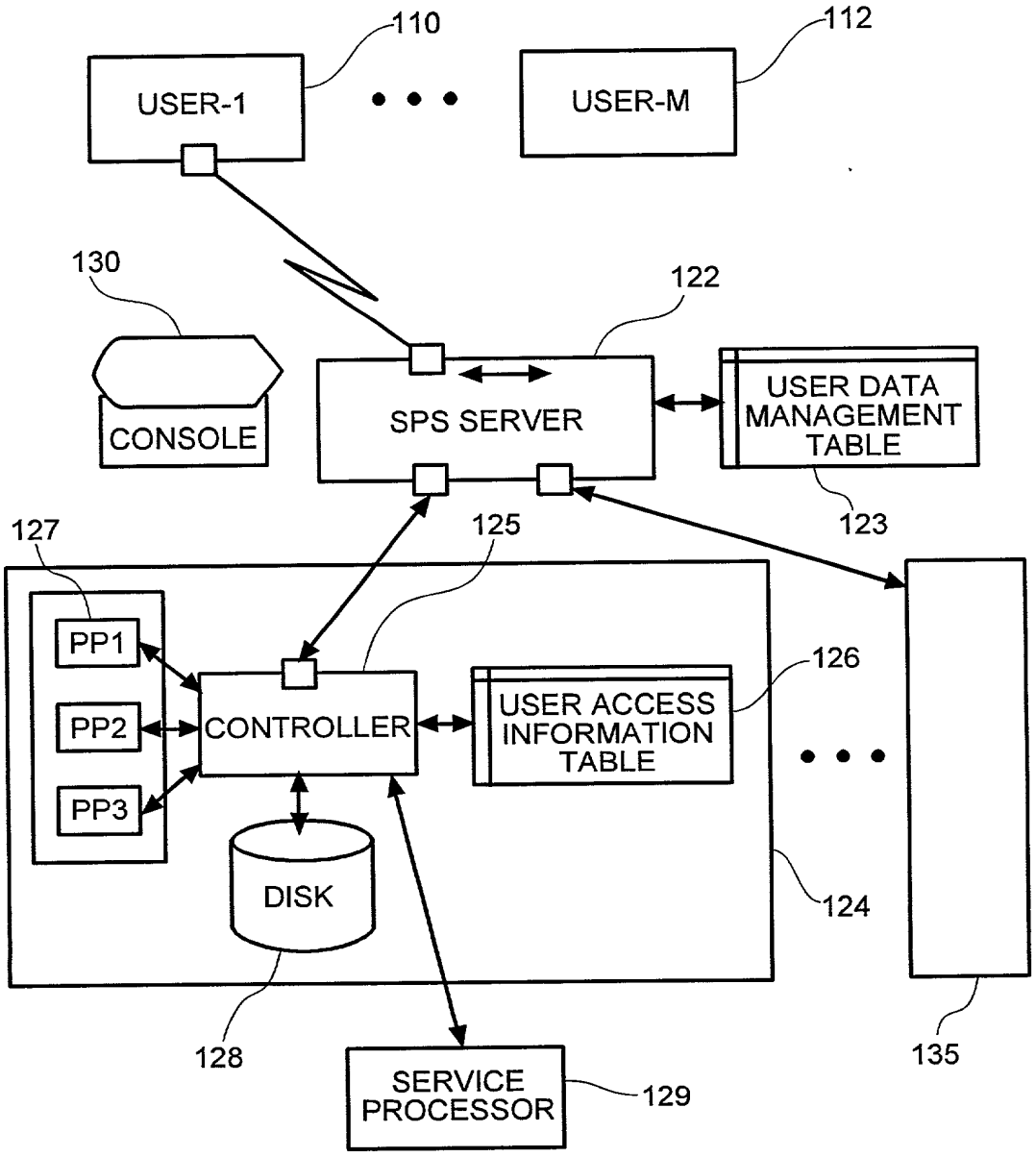


FIG.4

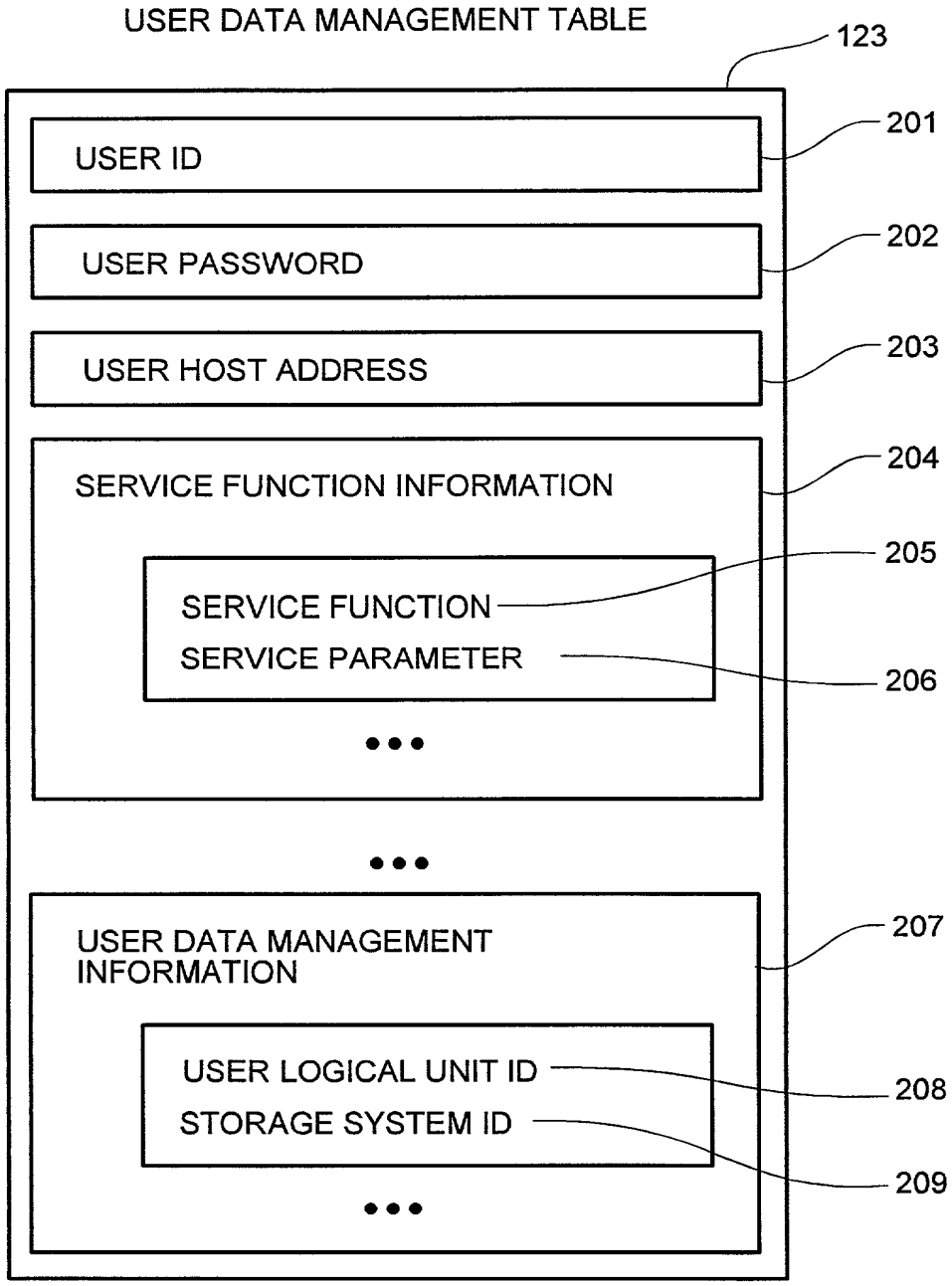

USER DATA MANAGEMENT TABLE
123
USER ID
201
USER PASSWORD
202
USER HOST ADDRESS
203
SERVICE FUNCTION INFORMATION
204
SERVICE FUNCTION
205
SERVICE PARAMETER
206
USER DATA MANAGEMENT INFORMATION
207
USER LOGICAL UNIT ID
208
STORAGE SYSTEM ID
209

FIG.5

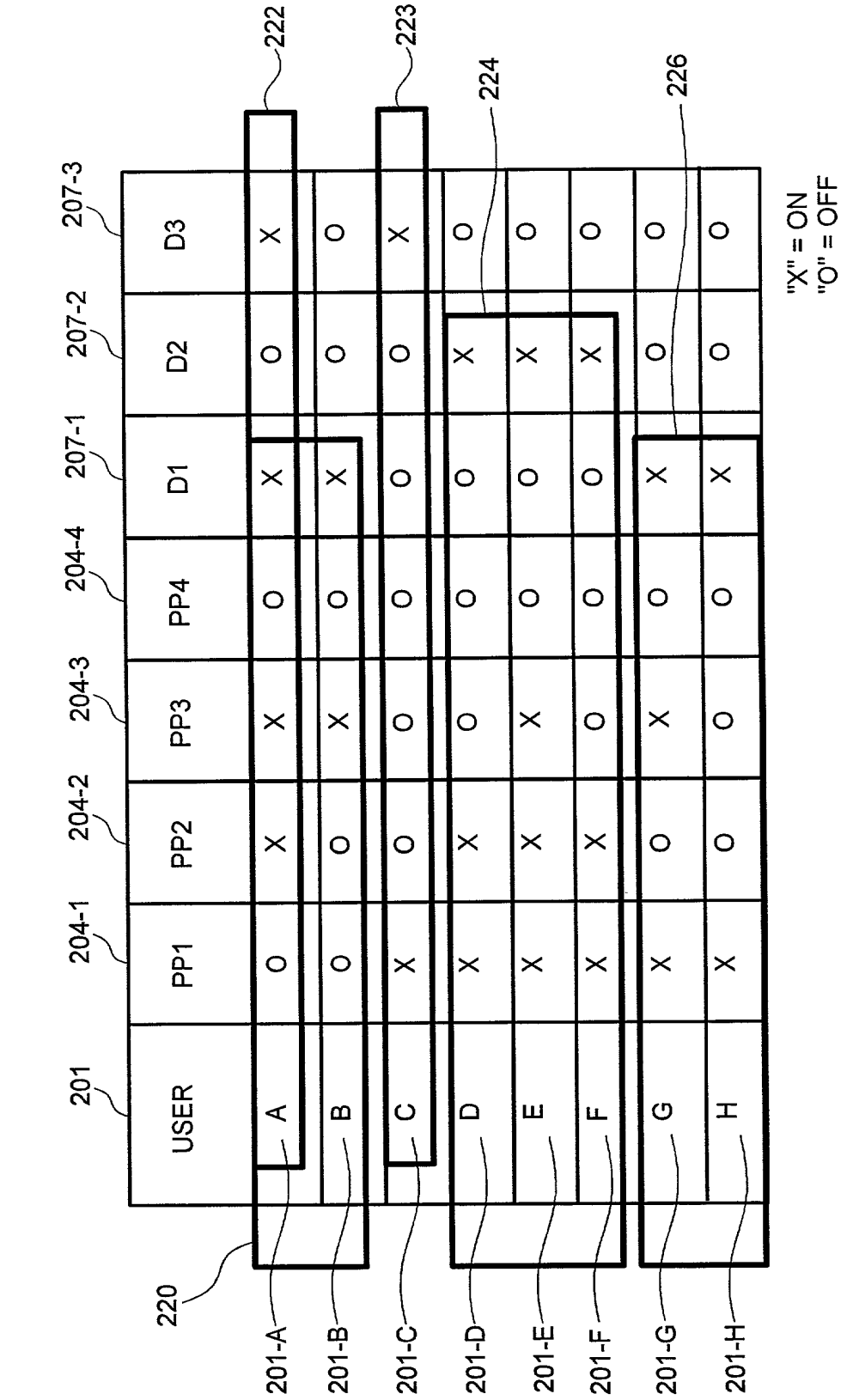

201
USER
204-1
PP1
204-2
PP2
204-3
PP3
204-4
PP4
207-1
D1
207-2
D2
207-3
D3
220
222
223
224
226
A
B
C
D
E
F
G
H
201-A
201-B
201-C
201-D
201-E
201-F
201-G
201-H
"X" = ON
"O" = OFF

FIG.6

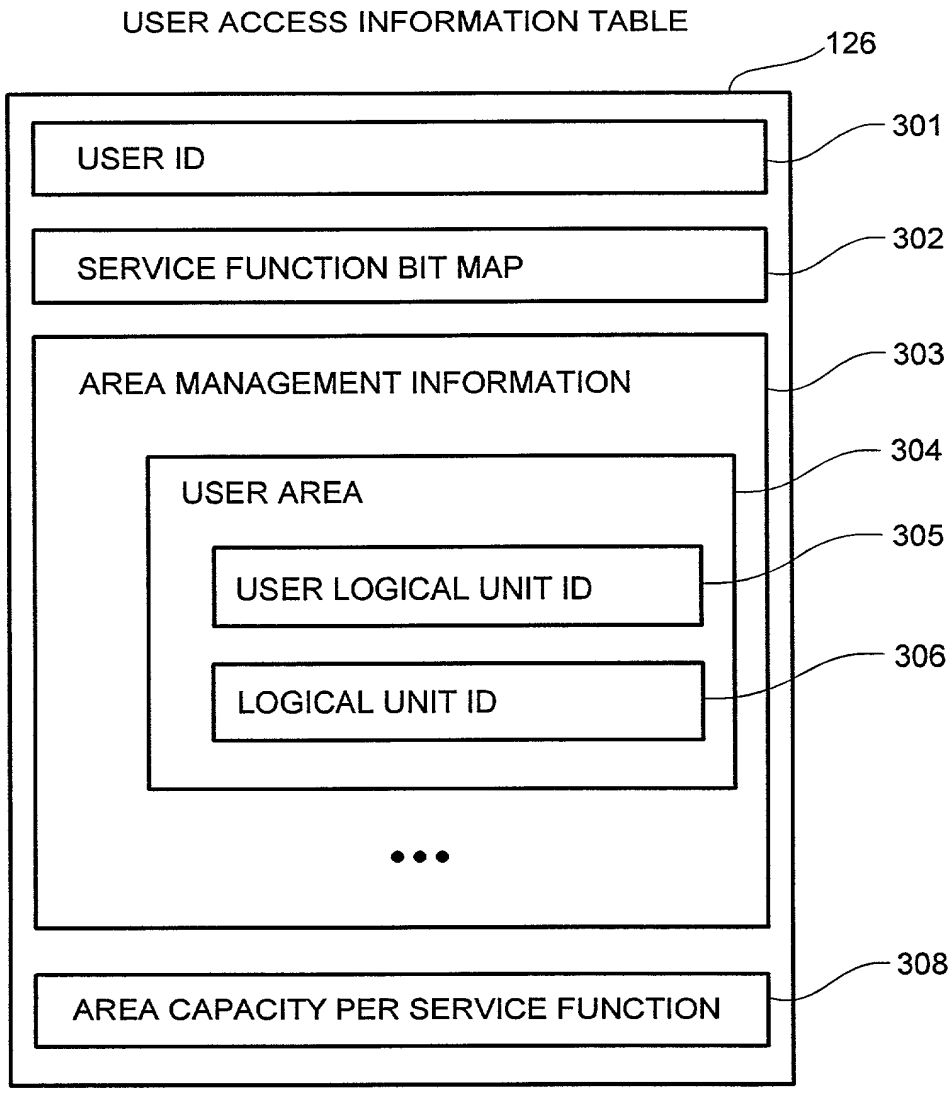
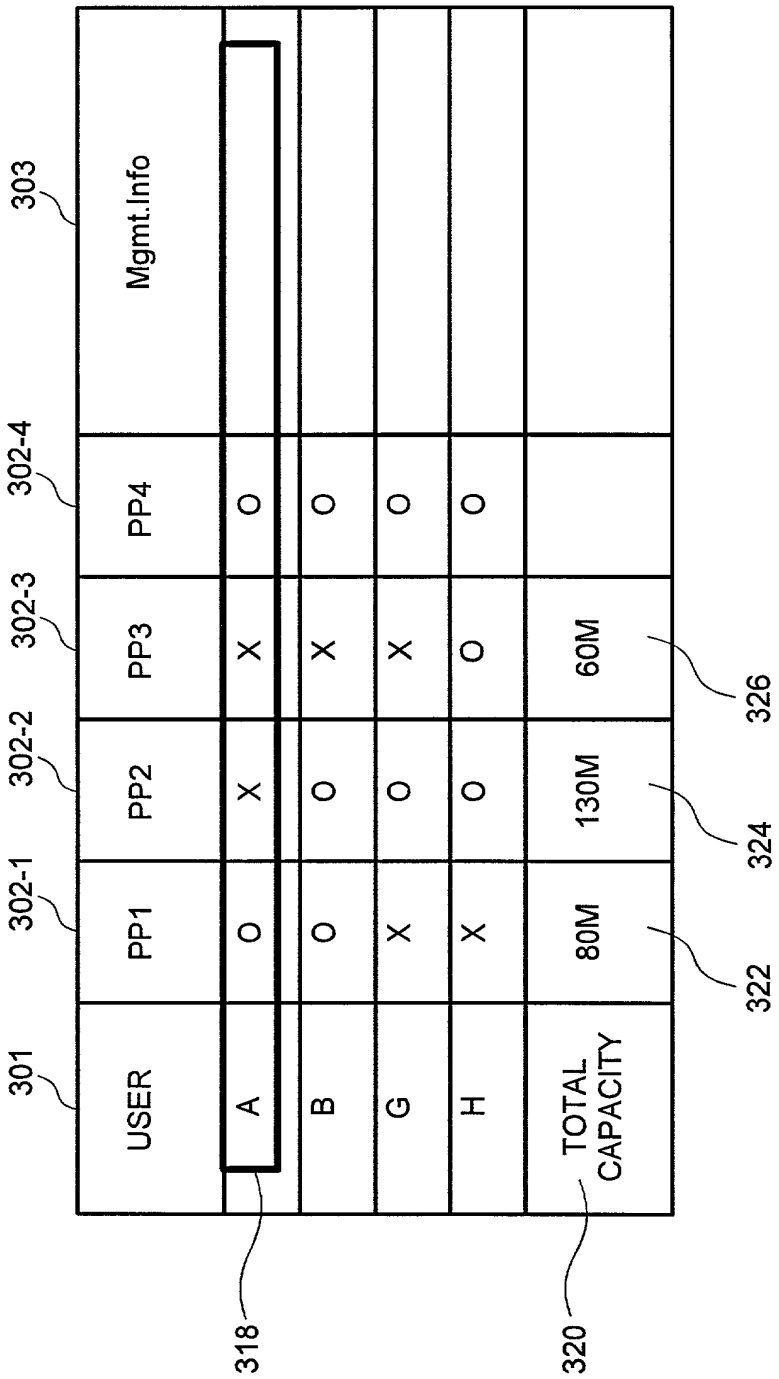

USER ACCESS INFORMATION TABLE
126
USER ID
301
SERVICE FUNCTION BIT MAP
302
AREA MANAGEMENT INFORMATION
303
USER AREA
304
USER LOGICAL UNIT ID
305
LOGICAL UNIT ID
306
308
AREA CAPACITY PER SERVICE FUNCTION

FIG.7


301
302-1
302-2
302-3
302-4
303
USER
PP1
PP2
PP3
PP4
Mgmt.Info
A
O
X
X
O
B
O
O
X
O
G
X
O
X
O
H
X
O
O
O
TOTAL CAPACITY
80M
130M
60M
318
320
322
324
326

Patent Application Publication

FIG.8

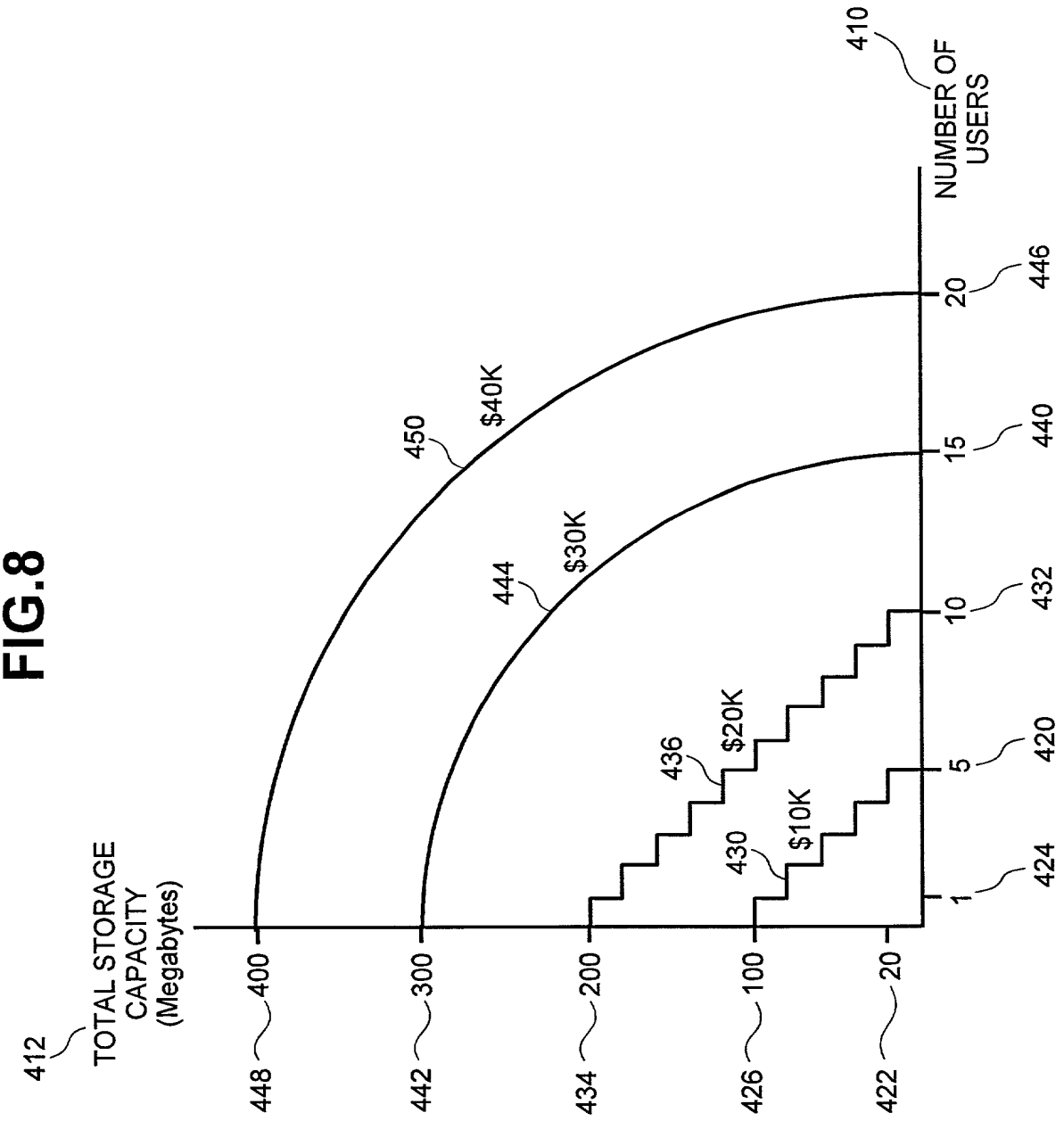


FIG.9

SERVICE PROVIDER SERVER OPERATION IN RESPONSE TO RECEIVED CUSTOMER ACCESS COMMAND

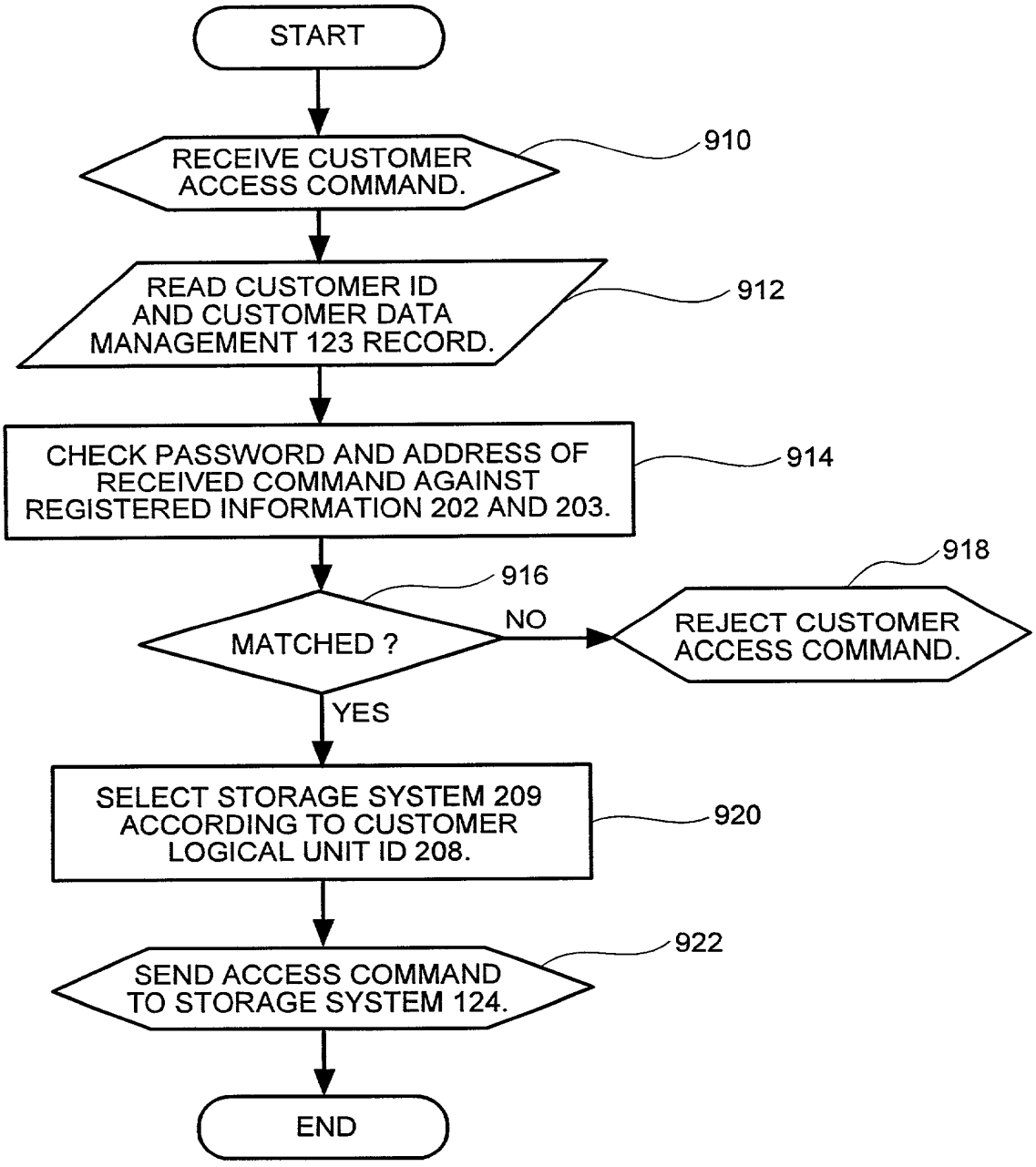


FIG.10

SERVICE PROVIDER SERVER OPERATION IN RESPONSE TO RECEIVED CUSTOMER SERVICE COMMAND

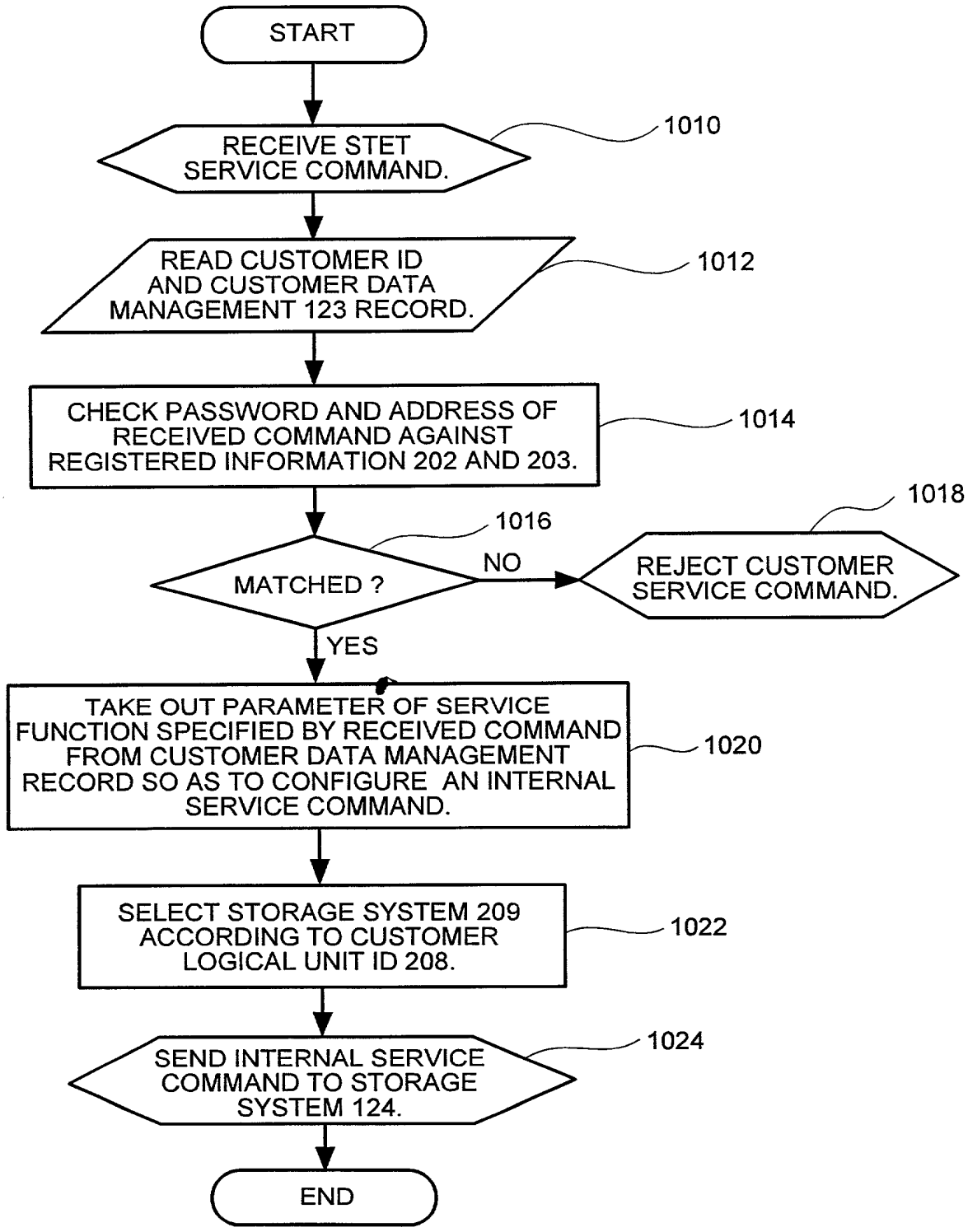


FIG.11

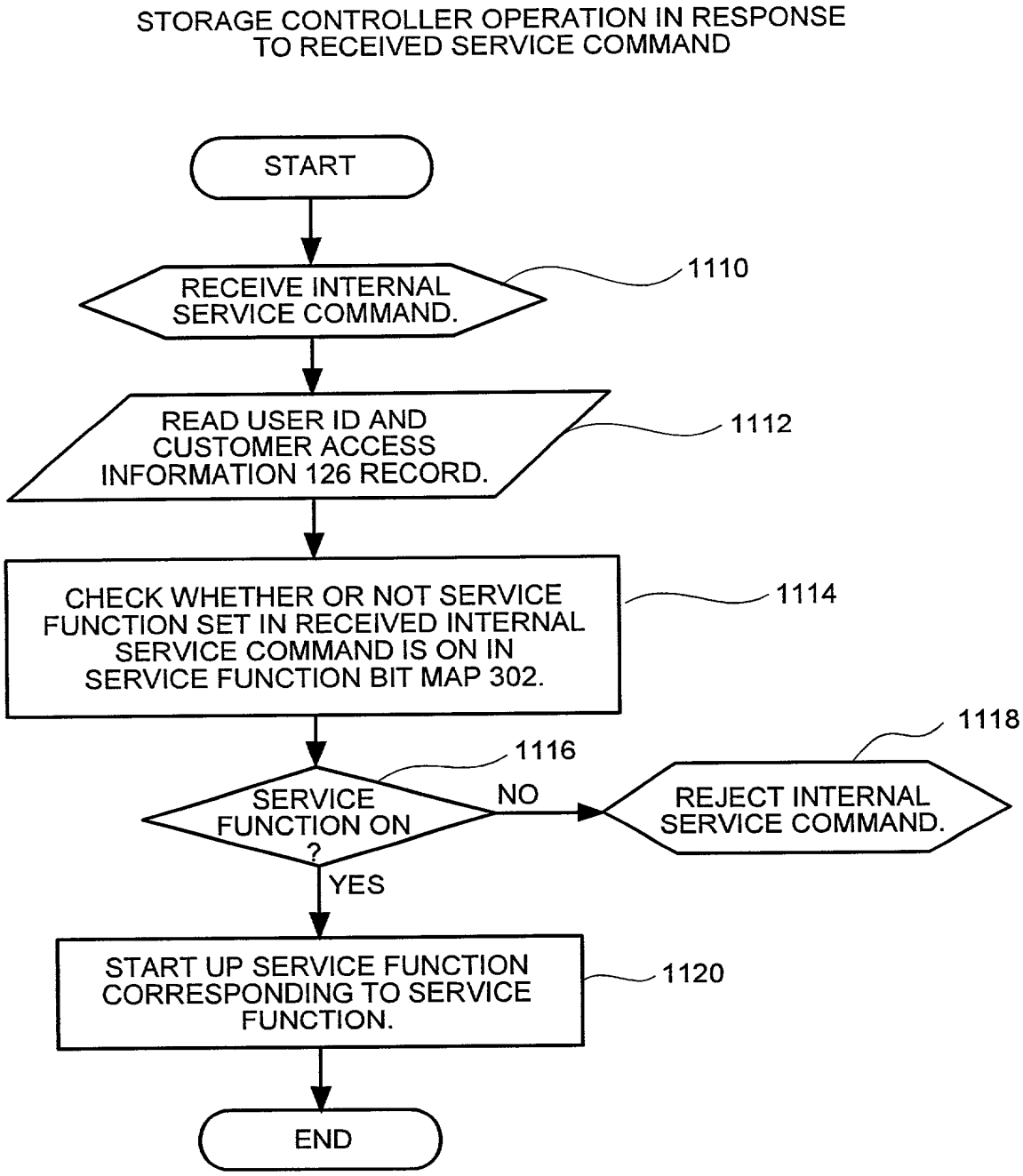

STORAGE CONTROLLER OPERATION IN RESPONSE TO RECEIVED SERVICE COMMAND
START
RECEIVE INTERNAL SERVICE COMMAND.
1110
READ USER ID AND CUSTOMER ACCESS INFORMATION 126 RECORD.
1112
CHECK WHETHER OR NOT SERVICE FUNCTION SET IN RECEIVED INTERNAL SERVICE COMMAND IS ON IN SERVICE FUNCTION BIT MAP 302.
1114
1116
SERVICE FUNCTION ON ?
NO
1118
REJECT INTERNAL SERVICE COMMAND.
YES
START UP SERVICE FUNCTION CORRESPONDING TO SERVICE FUNCTION.
1120
END

FIG.12

NEW DATA AREA RESERVATION PROCESSING

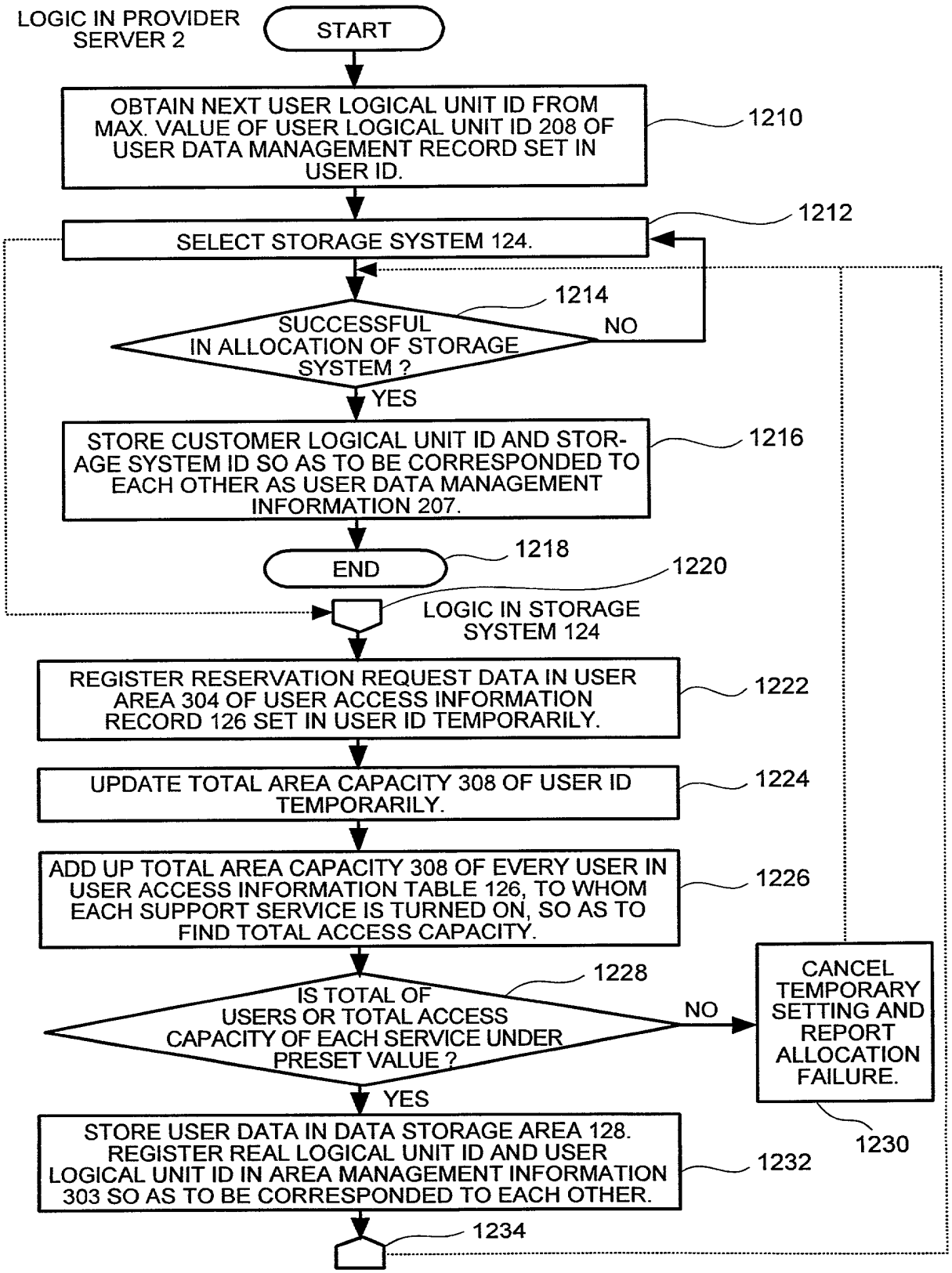
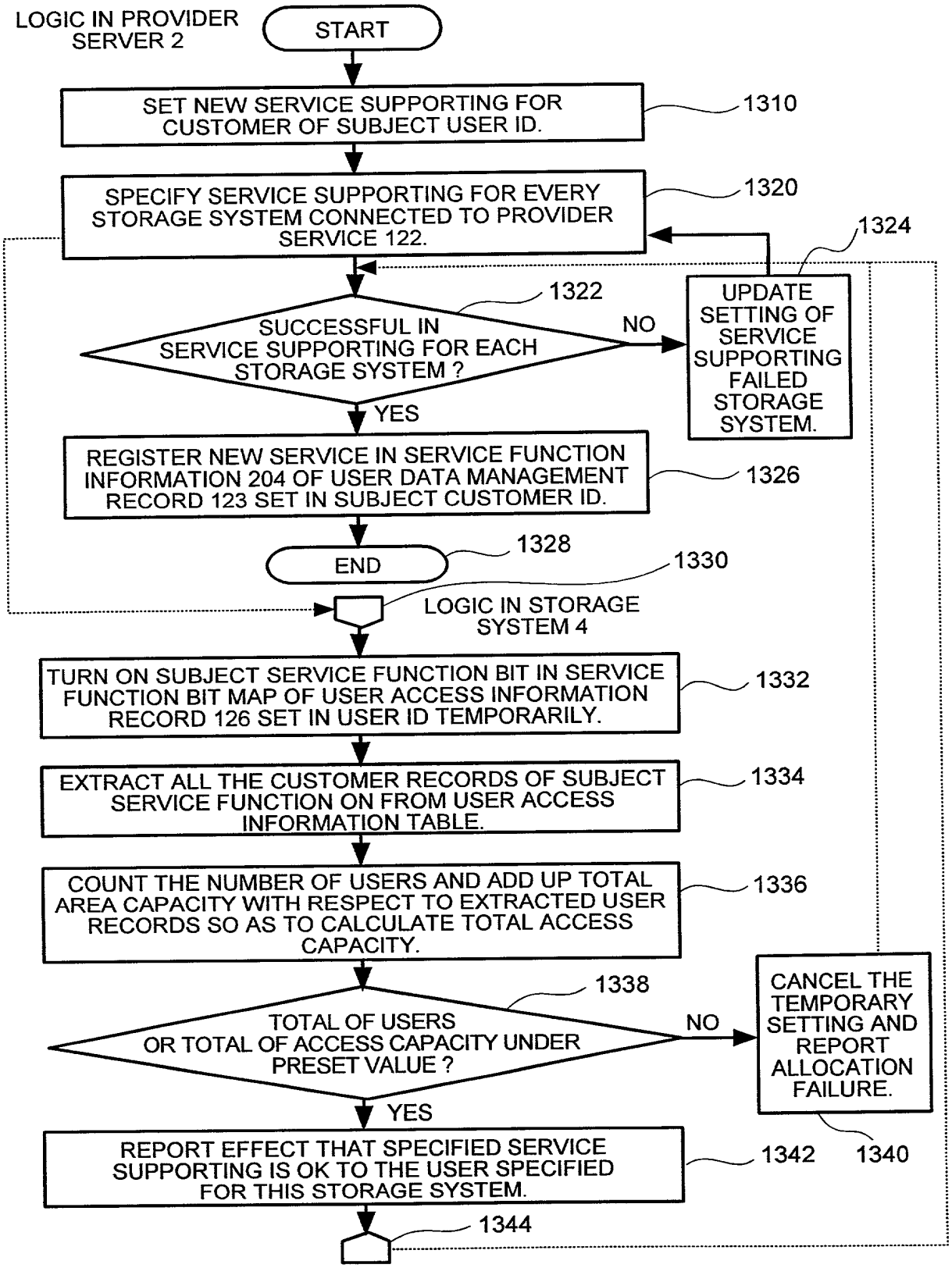


FIG.13

NEW SERVICE SUPPORTING REGISTRATION PROCESSING



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